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Texas Wetland News

AND WETLAND CONSERVATION PLAN UPDATE

July 2001

Texas Parks and Wildlife • 4200 Smith School Road, Austin, Texas 78744

TPW Creates New Wetland Position in Wildlife Division

Jeff Raasch has taken a new position in the Wildlife Division. His new title is Statewide Wetland Habitat Program Leader.

The position will be responsible for coordinating the MARSH program, intra and inter-divisional coordination on wetland issues, wetland conservation on private lands, wetland development project coordination and grant development, and wetland and waterfowl research. He will be actively involved in the Joint Ventures, coordinate workshops and training on wetland issues, and help with the acquisition of important wetland areas.

The State Wetland Planner's position in the Resource Protection Division is in the process of being filled.

Jeff still has the same contact information –
phone: (512) 389-4328
e-mail: jeff.raasch@tpwd.state.tx.us

West Galveston Bay on the Mend

Of the original 215 million acres of wetlands existing 200 years ago in the continental United States, less than 100 million acres remain. Of these 100 million acres of wetlands that remain in the continental U.S., Florida has the most with 11 million acres. Next are Louisiana with 8.8 million, Minnesota with 8.7 million, and Texas with 7.6 million.

The significance of these losses has been recognized, and a number of restoration/protection efforts have been undertaken...

On the Texas side of the Sabine River, it has been estimated that there were 4.1 million acres of wetlands in the state in the 1950s, but less than 3.3 million acres of wetlands were present in Texas by the early 1990s. During this period, estuarine wetlands declined from 165,000 acres to 130,400 acres along the Texas coast. These coastal wetlands included unvegetated intertidal flats as well as emergent salt, brackish, and intermediate marshes.

In the Galveston Bay complex, approximately 35,000 acres of estuarine wetlands, or 59% wetland loss has occurred, according to a report published by the Galveston Bay Estuary Program. This report attributes the loss of marshes around the Galveston Bay complex to

subsidence induced by withdrawal of groundwater, oil, and gas. Land subsidence in various parts of the bay has ranged from approximately 1 to 9 feet since the 1940s. This process has resulted in the conversion of marsh areas to open water habitat. Another cause of wetland loss is conversion of marshes and wetlands to upland habitat for agricultural, transportation, industrial, residential or commercial purposes by filling.

The significance of these losses has been recognized, and a number of restoration/protection efforts have been undertaken along the upper Texas coast and in West Bay of the Galveston Bay complex in particular to help remediate some of these losses. In West Bay, there are four projects either presently ongoing or in the planning phase (Texas Wetland News Vol. 5; Issue 1). Halls Lake and Jumbile Cove are in the construction phase and work is expected to be completed later this year for these projects. Work and completion on Delehide Cove and North Deer Island are scheduled for the 2002/2003 field season.

Continued on the next page

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West Galveston Bay, continued

Nearly complete, the Galveston Island State Park (GISP) Habitat Restoration Project is one of the larger restoration projects in the Galveston Bay complex. The GISP and the restoration plan focused on restoring smooth cordgrass (*Spartina alterniflora*), with some high marsh and some sheltered water, and is expected to support seagrasses. The goal of this project was to enhance 750 acres of shallow water habitat and restore approximately 115 acres of estuarine wetland habitat.

The construction phase of this project was initiated in May of 1999 with the filling of the first of 13,500 feet of geotubes used for the project (Figure 1). The geotubes were used as a measure to break the wave energy around the site. The filling of the geotubes was then followed by the construction of terraces, planting of the terraces, and monitoring for planting success. It was expected that the terraces would likely “melt” due to settling and wave impacts, and they have performed as expected.

The material for the terraces was stacked (Figure 2) and then planted during the “Marsh Bash” on Saturday, August 31, 1999. The *Spartina* plants were planted on 3 to 4 foot centers. Initially, the *Spartina* appeared very stressed – this may have been due to the *Spartina* plants being planted during the warmer months of the year and the fact that the plants were transplanted from a low salinity borrow site.

Hurricane Bret made landfall along a sparsely populated stretch of the lower Texas coast on August 22, 1999, and while substantial rainfall fell in some areas near where the hurricane made landfall, the upper Texas Coast received none of this bounty. What we did get from Bret was tides, which on average were close to 2 feet higher than normal, and some erosion on the terraces occurred from this event (Figure 3).

Subsequent follow-up work at this site shows significant levels of success with the *Spartina* and the terraces have become fairly stable (Figure 4).

An interesting note about this project is that one of the stated goals was the reestablishment of seagrasses in the sheltered, quiet water areas inside the terrace fields. A site visit was made to the area in late fall of 1999, and star grass (*Halophila engelmannii*) was observed growing in an area of the project that was scheduled for the placement of terraces. This seagrass had not been reported in the area since 1971. In the past, some work had been done in the area to reestablish seagrasses, but there had been no reports of success. The discovery of *Halophila* in this area was a welcome surprise and the project was modified to avoid the area where the *Halophila* was growing.



Figure 1 - Geotube construction, Galveston Island SP



Figure 2 - Early Summer 1999



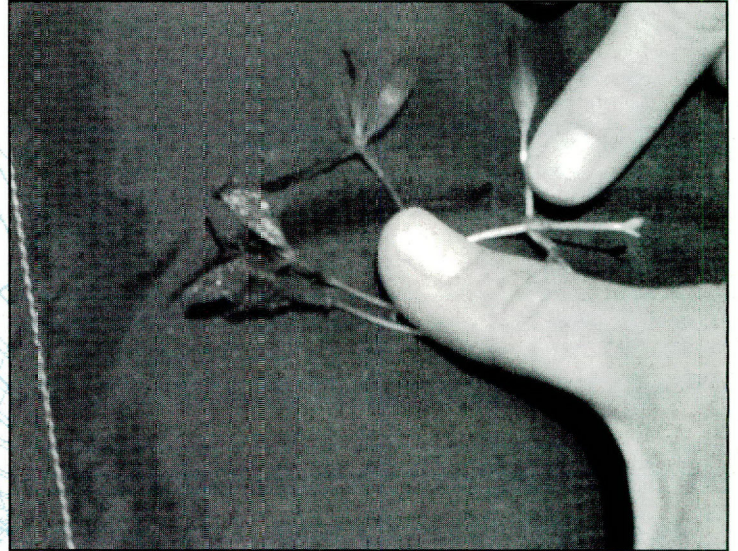
Figure 3 - Early Fall 1999



Figure 4 - Late Fall 2000

Halophila is described as being a pioneer species of seagrass and is notably tolerant of salinity extremes. *Halophila* has been documented to be able to withstand a salinity of 74 ppt, and with limited rainfall along the upper Texas coast the past several years, the salinity regime in West Bay has been altered and has been running higher than normal. Perhaps this higher salinity is one factor that has allowed for favorable conditions in which the *Halophila* could reestablish itself. On subsequent site visits, the seagrass, shoal grass (*Halodule wrightii*), was reported mixed in with the *Halophila*. The *Halophila* and *Halodule* have spread rapidly during the year 2000, covering approximately 25 acres by December of 2000.

When a project of this type is undertaken, it is possible to maximize the scope of work through partnering, which allows for greater accomplishments than could be done individually. Partners for the GISP included: Texas Parks and Wildlife, United States Fish and Wildlife Service, National Marine Fishery Service, Natural Resource Damage Assessment (NRDA) Trustees, Galveston Bay Estuary Program, Galveston Bay Foundation and Reliant Energy. Funding for this project included \$1.5 million dollars from the Federal Coastal Wetland Planning, Protection and Restoration Act or "Breaux Bill" and another one-half million dollars from the NRDA settlement for the 1990 Apex barge spill in Galveston Bay.



star grass, *Halophila engelmannii*

The GISP project will continue to mature and is dramatically enhancing the terrestrial and aquatic wildlife use in the area. This project demonstrates the potential for halting and restoring some of the habitat loss in Texas.

Check out these sites for more information:

Galveston Island State Park

http://texascoastalprogram.fws.gov/more_on_galveston_island_state_p.htm

Galveston Bay Gets a New Grass Carpet

http://www.enr.com/news/enr-stories/2001/04/04212001/seagrass_43124.asp

Turning the tide on erosion in Galveston Bay

http://www.enr.com/news/enr-stories/2000/12/12152000/gulfcoast_40785.asp?P=2

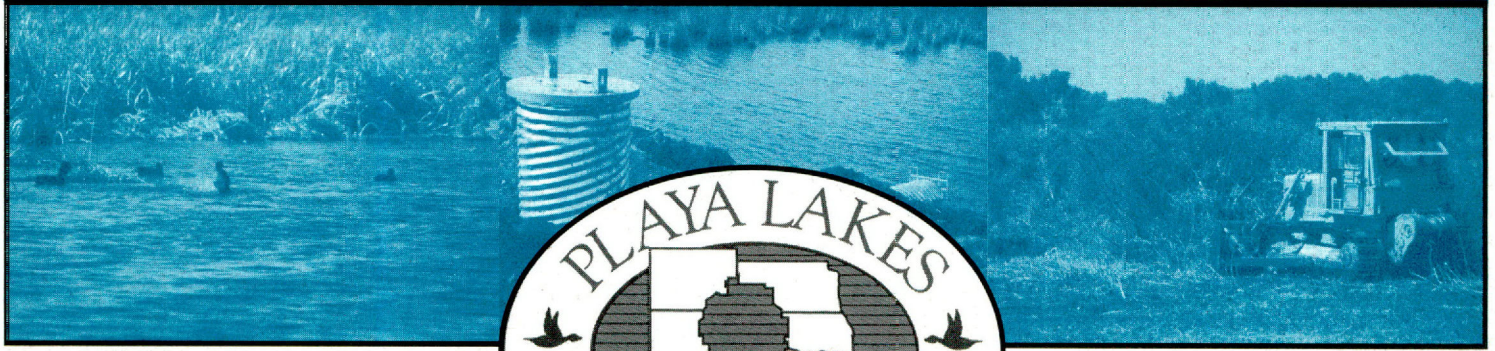
TEXAS RECEIVES \$1.3 MILLION TO RESTORE COASTAL WETLANDS

<http://twri.tamu.edu/watertalk/archive/2000-Dec/Dec-22.2.html>

Get on the mailing list!

If you or someone you know would like to receive
TEXAS WETLAND NEWS,

contact: Jennifer Key
 Resource Protection Division
jennifer.key@tpwd.state.tx.us



Phillips Petroleum Contributes to the Playa Lakes Joint Venture

Phillips Petroleum recently celebrated its 10th year of involvement with the Playa Lakes Joint Venture. Since 1990, they have contributed over \$1 million to the Joint Venture to support wetland-oriented research and habitat projects. Those states involved in the Joint Venture and benefiting from Phillips' involvement include Texas, New Mexico, Oklahoma, Kansas and Colorado.

In Texas, Phillips' donations have been used to assist with construction of moist-soil management units at Gene Howe and Taylor Lakes Wildlife Management Areas. In addition to the construction of moist-soil units, Phillips' contributions have also helped with the acquisition of the Armstrong Playa, a conservation easement, and the Dimmitt Playa, both of which are units of the Playa Lakes Wildlife Management Area.

Several projects on private lands have also been completed as a result of Phillips' assistance. Private lands projects have focused primarily on protecting playa lakes through grassland buffers and fencing. Grassland buffers protect playa basins from "silting-in" due to cropland erosion, and fencing allows landowners to better control grazing in and around playas.

Recently, Phillips' contributions have helped to fund research projects on shorebirds through Texas Tech University. These projects have investigated the importance of saline and playa lakes to both breeding and migrant shorebirds. Other research funded by Phillips includes studies of disease in snow geese, and migration and movement of sandhill cranes through the use of satellite transmitters.

Habitat Enhanced on Rolling Plains Public Land

Recently, Texas Parks and Wildlife completed construction of two moist-soil management units on the Taylor Lakes Wildlife Management Area (WMA) near Clarendon, Texas. Together, the two moist-soil units total approximately 12 acres and were made possible through funding from the Ducks Unlimited MARSH (Matching Aid to Restore States' Habitat) program and the Playa Lakes Joint Venture.

Biologists at Taylor Lakes WMA identified basins adjacent to existing lakes that often held water following heavy rains. Following surveying efforts by TPW and NRCS, a proposal was made for funding to construct dikes with water control structures on each of these areas. Funding was approved last year, allowing construction of the units this past winter. These moist-soil units will be managed by periodic flooding during the growing season to stimulate the growth of seed-producing moist soil plants such as smartweed (*Polygonum* spp.). The basins will then be flooded and the water left standing during the fall and winter, in order to allow ducks access to the seeds. In addition, these units will increase roosting areas available for geese and ducks.

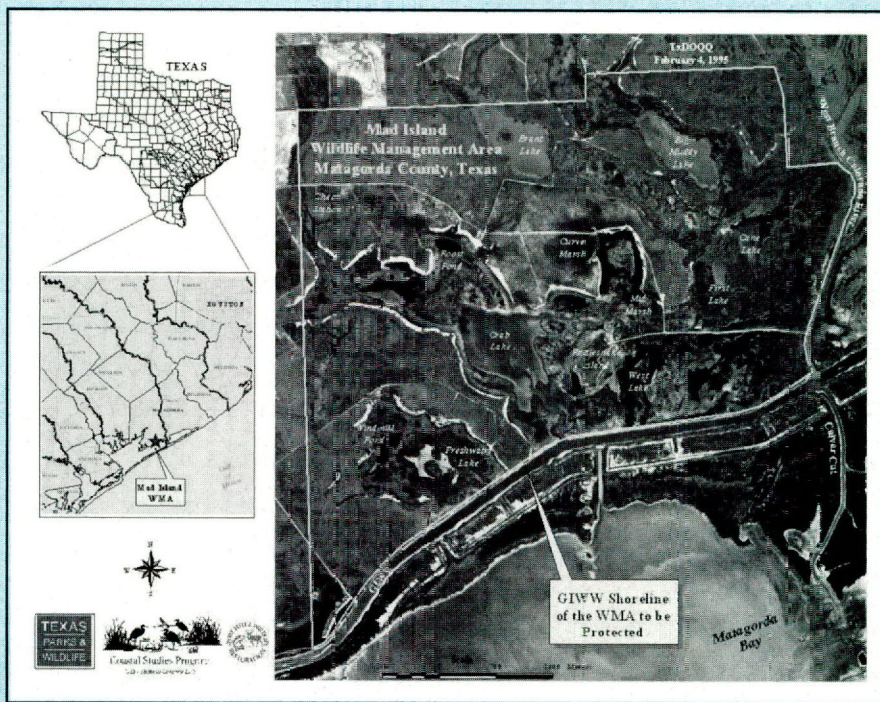
While the Taylor Lakes WMA ranks among the smallest (530 acres in size) in the state, the diversity of animals is quite high due to a mix of several habitat types. These habitat types include wetlands, mesquite grasslands, and riparian zones. Over 205 species of birds have been documented by birdwatchers in the Taylor Lakes WMA. Shorebirds and waterfowl are attracted to Taylor Lakes' four water-table lakes, and many grassland dwelling birds can be found in the uplands. Winter flocks of more than 5,000 geese (primarily Canadas) are not uncommon.

Because rainfall is not exactly dependable in the eastern Panhandle region, TPW is seeking further funding through MARSH to install wells that could be used to better regulate water levels in Taylor Lakes Wildlife Management Area. Also, work is underway to restore a silted-in wetland on the property, in order to enhance habitat. To learn more about Taylor Lakes WMA or the wetland enhancement projects there, contact Scott Sudkamp at (806) 492-3405.

To find out more about Phillips Petroleum's contributions to wildlife and habitat conservation, visit: www.phillips66.com/about/flyway/Projects-Main.htm

Mad Island WMA Shoreline Stabilization Project

The Mad Island Wildlife Management Area (WMA) is located on the Texas coast south of Bay City near the town of Matagorda. Mad Island's shoreline, along the Gulf Intracoastal Waterway (GIWW), with its associated coastal marsh and prairie habitats, is retreating at a rate of approximately 1 to 3 feet annually due to erosion. Texas Parks and Wildlife (TPW) staff estimates that the 4.25 miles of GIWW shoreline along Mad Island WMA has eroded an average of 50 feet since 1978.



When the GIWW was originally dredged in the early to mid-1940s, it was approximately 120 feet in width. Currently, the GIWW along the Mad Island WMA boundary is over 300 feet in width. Waves created from boat wakes and "nosing in" of barges to anchor are presumed to be causing the erosion along the WMA shoreline. Along with pushing salinity and fluctuating hydrology regimes into the marshes, the waves wash organic matter out of the marsh soils, reducing their ability to support plant life. As the vegetation dies due to salinity changes and lack of organic matter, the soils become vulnerable to even further erosion.

Erosion is occurring more rapidly along sections of the shoreline that consist of emergent wetlands than along the rest of the reach. This erosion has led to the conversion of fresh water wetland habitats within Mad Island WMA to more saline marshes due to altered hydrology and salinity gradients.

The marshes, along with the fresh and intermediate lakes in Mad Island WMA, provide habitat for over 270 species of birds. The WMA supports thousands of ducks daily during winter months, including green-winged teal (*Anas crecca*), gadwall (*Anas strepera*), northern shoveler (*Anas clypeata*), American wigeon (*Anas americana*), lesser scaup (*Aythya affinis*), mottled duck (*Anas fulvigula*) and northern pintail (*Anas acuta*), as well as 5,000-20,000 snow geese (*Chen caerulescens*). WMA staff manage for breeding and brood-rearing mottled ducks, black-bellied whistling-ducks (*Dendrocygna autumnalis*), and fulvous whistling-ducks (*Dendrocygna bicolor*) during spring and summer. The marshes also provide important habitat for shorebirds, wading birds, reptiles, amphibians, and wetland-dependent mammals. In addition, the

wetlands provide important nursery grounds for recreationally and commercially important aquatic species including shrimp, finfish and crabs.

TPW is seeking funds to build an offshore rock breakwater parallel to the existing shoreline. The breakwater would be placed up to 50 feet offshore or along the shoreline as appropriate. The breakwater would extend the length of the 4.25-mile problem area on the WMA and would be built using straight tangents. The rock breakwater would be constructed 3 to 4 feet above mean tide level and have 3:1 slopes. The project would incorporate openings at the mouths of natural bayous to allow for marine organism and nutrient ingress/egress and the breakwater would be appropriately marked to avoid boating hazards. The purpose of the rock breakwater is to stabilize the shoreline and to restore estuarine habitat.

Currently, TPW has started the process of working with the US Army Corps of Engineers under the Section 206 Program to fix the problem along the GIWW on Mad Island WMA. This will be a multi-year process, but if successful, will be an example that can be used on other problem areas along the GIWW in Texas.

The WMA supports thousands of ducks daily during winter months, including green-winged teal, gadwall, northern shoveler, American wigeon, lesser scaup, mottled duck and northern pintail, as well as 5,000-20,000 snow geese.

Other Wetland News and Plan Updates

BENT ON WATERFOWL newsletter

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Free subscriptions at www.naturebent.com

Waterfowl enthusiasts have a new publication to set their sights on, and it's free. NatureBent, Inc. recently launched BENT ON WATERFOWL, an e-mail newsletter covering waterfowl conservation, management, research, biology, population and harvest surveys, migrations, and regulations. The newsletter is written for a general readership of waterfowl enthusiasts, including conservationists and hunters.

"BENT ON WATERFOWL is a new kind of publication for today's waterfowl enthusiasts," said BRIAN D. SULLIVAN, editor and publisher. "We think subscribers will appreciate the quick-read format and informal style of our newsletter."

An avid waterfowler, Sullivan brings nearly a lifetime of dedication to the waterfowl resource to his duties as editor. He is a trained biologist and a former waterfowl researcher and manager, most recently as Waterfowl Program Leader for Texas Parks and Wildlife.

Interest Increasing in the Wetland Project Site Registry Program

Since the Registry Program's reappearance on the internet in January, interest in the Registry Program by Texas landowners has been increasing. The Registry Program is a way for public and private landowners to receive assistance for their wetland

restoration goals from private companies, individuals, and state and federal agencies. The Registry Program is dependent on participation from all parties, and the process begins when an individual adds their property information to the Registry. An individual or entity interested in performing wetland restoration in a particular area can search either the private land or public land Registry on-line at: www.tpwd.state.tx.us/wetlands/programs/registry/searchdata.htm. The private land Registry can be searched by county or river basin, and will return information on the property's size and habitat type. Confidential information, such as contact information and specific restoration goals of the landowner, will only be disclosed to interested parties after the landowner has been contacted and has specifically approved the disclosure of this information.

In addition to information about the Registry Program being available on-line at: www.tpwd.state.tx.us/wetlands/programs/registry, informational brochures about the program are also available from Texas Parks and Wildlife. These brochures explain how the Registry Program works and contain a pre-paid form that landowners can mail to the project manager to add their property to the Registry. The success of the Registry Program is dependent on individuals, entities, and agencies knowing about and participating in the program. Therefore, if you are interested in obtaining brochures to distribute, please call Jennifer Key at (512) 389-8521 or e-mail jennifer.key@tpwd.state.tx.us

Searchable Texas Wetlands Grant Database Now Available

Available on the Texas Parks and Wildlife Wetland Web pages at: www.tpwd.state.tx.us/wetlands/programs/grants, the Texas Wetlands Grant Database is a compilation of federal, state and private funding assistance available to Texans to fund wetlands restoration, research, program development and

education. The grants listed in the database range from a percentage of the overall cost of restoration to several thousand dollars. Grants are available for private organizations, educational institutions, non-profit organizations, states, local governments, and many others.

To search for a grant that may help you or your organization achieve your wetland restoration/education goals, you can search the on-line database by using drop-down lists of keywords or eligible recipients. The category of "keywords" indicates the type of grant available in the database. Some examples of keywords the grants can be searched by are: exotics, fisheries, training, research, water quality, and policy development. The "eligible recipients" list includes individuals, educational institutions, museums, research institutes, and youth groups, among others.

During the creation of the database, every effort was made to include accurate information; however, some information may have changed. When a potential grant is selected, the user is encouraged to contact the funding source directly prior to applying, in order to insure that the information is accurate and that funding is still available. If you are aware of new programs or if you have updated information, please contact Jeff Raasch at (512) 389-4328.

Don't Forget! The Revised Wetlands Assistance Guide for Landowners is Available

The Wetlands Assistance Guide for Landowners has been updated and is now available from Texas Parks and Wildlife. The Wetlands Assistance Guide for Landowners is a comprehensive guide to federal, state, and private programs offering technical and/or financial assistance to private wetland owners within the state of Texas. The document has been completely updated with new program information and contact information. If you would like a copy, you can download it from TPW's Web site at www.tpwd.state.tx.us/wetlands/programs/landowner. If you would rather have one mailed to you, call Jeff Raasch at (512) 389-4328 or e-mail at jeff.raasch@tpwd.state.tx.us



Have Any WETLANDS NEWS?

If you would like to be added to the mailing lists or would like to submit an article for the next issue, contact:

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